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Windows Phone 8.1 (LUMIA)

Community Group

HOW TO

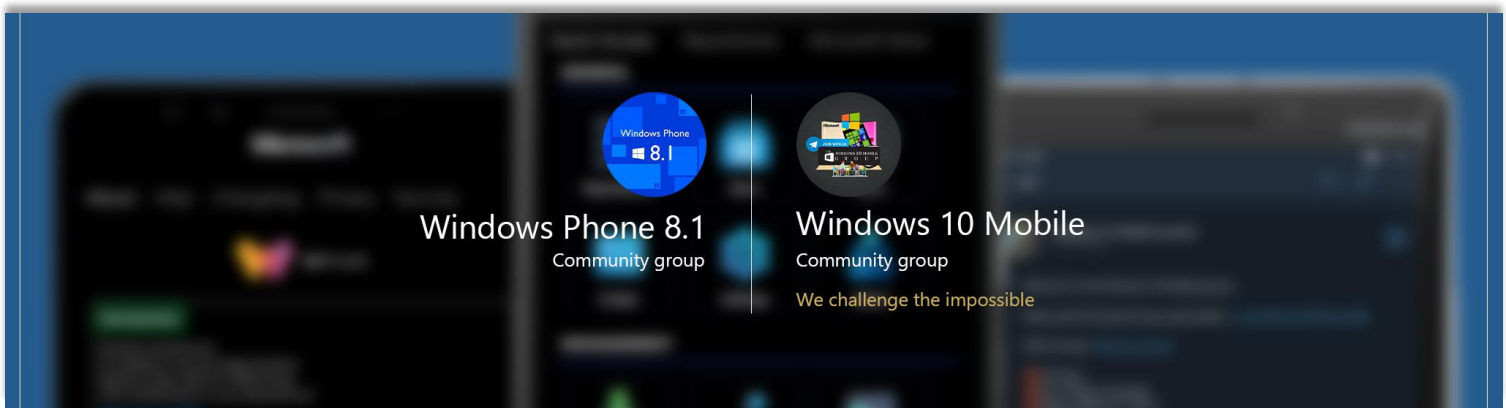
FLASH / RE-FLASH

WINDOWS PHONES

MULTIPLE-METHODS

Requirements

- Windows PC (Minimum: Windows 7 SP1 | Recommended: Windows 8 & above)
- Windows Phone device.



W10M Group YouTube Channel

YOUTUBE

Apart from these documented Guides, we have started the roll up of **Video Versions** of each guide in our YouTube Channel.

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How to Flash/Downgrade Windows Phones (LUMIA & OTHER-OEM)

YOUTUBE

If you prefer video guidance over this documented work, then you can follow this video version of this guide.

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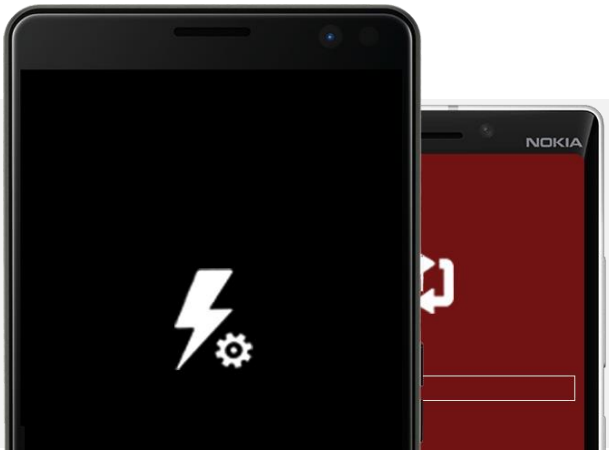
MULTIPLE-METHODS



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Introduction

What is a FFU package?

Full **F**lash **U**pdate aka **FFU** is the firmware package type for Windows Phone devices.

These FFU packages are officially created & signed by Microsoft themselves.

What are the uses of an FFU package?

There are several usecases for FFU packages, the most common ones are;

- Completely wipe a Windows phone and restore back to the factory firmware (*In most cases, downgrade purpose*)
- Device FFU file will be needed if one needs to Unlock the device Bootloader.
- Device FFU file will be needed in the process of Un-bricking a Windows Phone.

What will you loose if you flashed FFU?

You will loose everything stored in your device!

That means, Accounts, Apps, Games, Documentes & all the files + the current OS version installed in your device as well.

Flashing an FFU package will downgrade the OS?

It depends on both the FFU package and OS verison in your device!

If the *OS version you have in your device is newer than the OS verison the FFU file is based on*, then **YES**; the device will be downgraded after the Flash.

If the *OS version you have in your device is older than the OS version the FFU file is based on*, then **NO**; the device will instead upgrade after the Flash.

How can I know which OS version the FFU package of my device has?

It's not possible to give an exact answer to this question.

WHY?

A single device model can have whole lot of FFU packages based on different product codes and each of them can have different OS versions as not every one of them are updated over the time.

BUT: We can give an approximate details of what your device's FFU package will have.

LUMIA 550, 650, 950/XL

The FFU packages for these devices will be based on one of **Windows 10 Mobile Threshold 2 (1511 / 10.0.10586.XXX) builds**.

LUMIA 640/XL, 730, 735, 830

The FFU packages for these devices will be based on one of **Windows Phone 8.1 Update 2 (GDR2 / 8.10.15XXX.XXX) builds**.

(***TIP: Several product codes of these models can contain Windows Phone 8.1 Update (GDR1 / 8.10.14XXX.XXX) based FFUs***)

ALL OTHER LUMIA

Devices shipped in the end of 2013 and afterwards will have their FFU files based on one of **Windows Phone 8.1 Update (GDR1 / 8.10.14XXX.XXX) builds.**

Devices shipped in & before 2013 will have their FFU files based on one of **Windows Phone 8.1 (8.10.12XXX.XXX) builds**.

(***TIP: Some 1st gen Windows Phone 8 devices can still have outdated Windows Phone 8 based FFUs though such as the Lumia 520***)

OTHER-OEM Windows Phones?

Mostly, devices which shipped with Windows Phone 8 may still have **Windows Phone 8 based FFU** while some device manufacturers did update their FFUs for devices to at least **Windows Phone 8.1 (8.10.12XXX.XXX)**

Newer devices shipped with Windows 10 Mobile will have one of **Windows 10 Mobile Threshold 2 (1511 / 10.0.10586.XXX) build** based FFUs.

(***TIP: HP Elite x3 device FFU packages are based on one of Windows 10 Mobile Redstone 1 (1607 / 10.0.14393.XX) build***)

Updating the FFUs for NON-LUMIA devices were completely up-to the device manufacturers so those who cared to update will have their FFU files for their device updated.

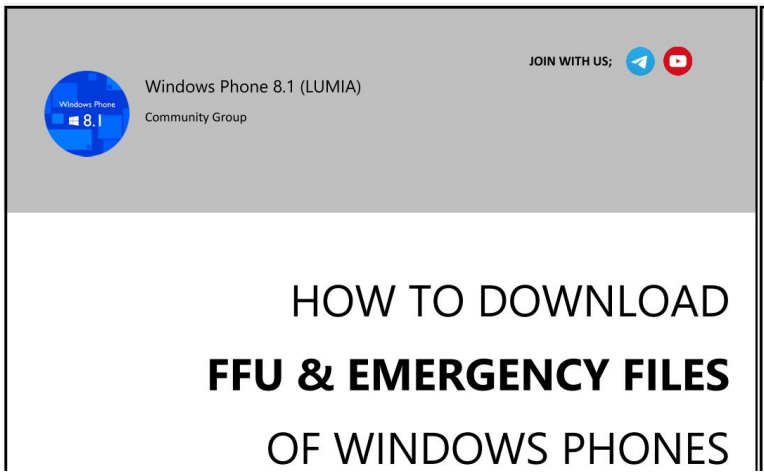
Download FFU package for your Windows Phone

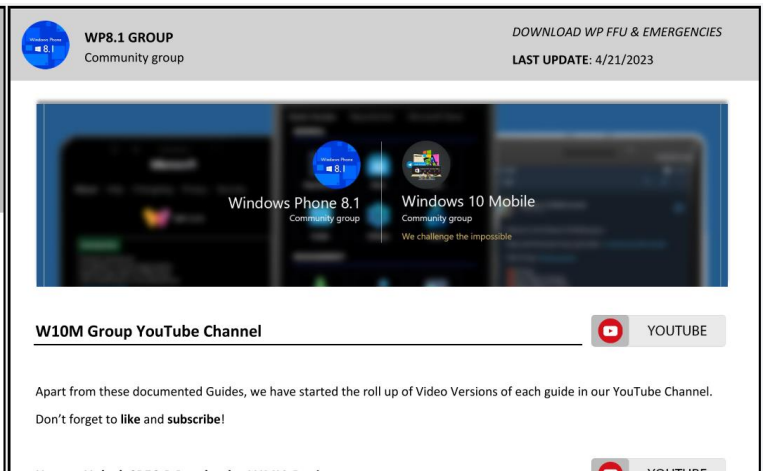
Before following this flashing guide, you will need to have the FFU package for your Windows Phone.

To get it downloaded for your device, you can refer to the guide below.

DOCUMENTED VERSION: How to download FFU & Emergency files of Windows Phones

W.U.T MEGA





VIDEO VERSION: How to Flash/Downgrade Windows Phones (LUMIA & OTHER-OEM)

YOUTUBE

Preparations

| METHOD 1

Download Windows Phone Internals (WPI)

(*Recommended: WPI 2.9.2 OR higher*)

GITHUB | W.U.T | MEGA

| METHOD 2

Download & install Windows Device Recovery Tool (WDRT)

(*Always keep WDRT installed for driver purpose*)

MICROSOFT | W.U.T | MEGA

| METHOD 3

Windows Phone Image Designer

Download Windows Phone Image Designer

W.U.T | MEGA

PRE-NOTES (MANDATORY)

| DISCLAIMER

We aren't responsible for any damage to your device during the Process, do it at your own risk & follow the guide to the letter.

- **Make sure the battery is charged at least up to 50% (Charging to 100% is recommended)**

  You don't want to take any chance of device shutting down during mid-flash.

- **FFU Flashing will delete all the data stored in your device!**

  Make sure you backed up all the data you need before flashing.

- **The Bootloader of your phone must not be unlocked!**

  If it's unlocked, re-lock the bootloader using Windows Phone Internals and then flash the device.

  If you flash your phone using a method other than WPI while the booltoader is unlocked, you will need to flash twice for the device to boot.

- **When the flashing starts, do not interrupt the connection!**

  That means;

  - ✗ Do not disconnect the device.
  - ✗ Do not close Windows Phone Internals
  - ✓ Double check the cable & port you use to connect your Windows Phone before begin flashing.

- **These flashing methods are intended only for the officially Microsoft production signed FFU packages.**

  Do not use these methods to flash a Custom-FFU packages!

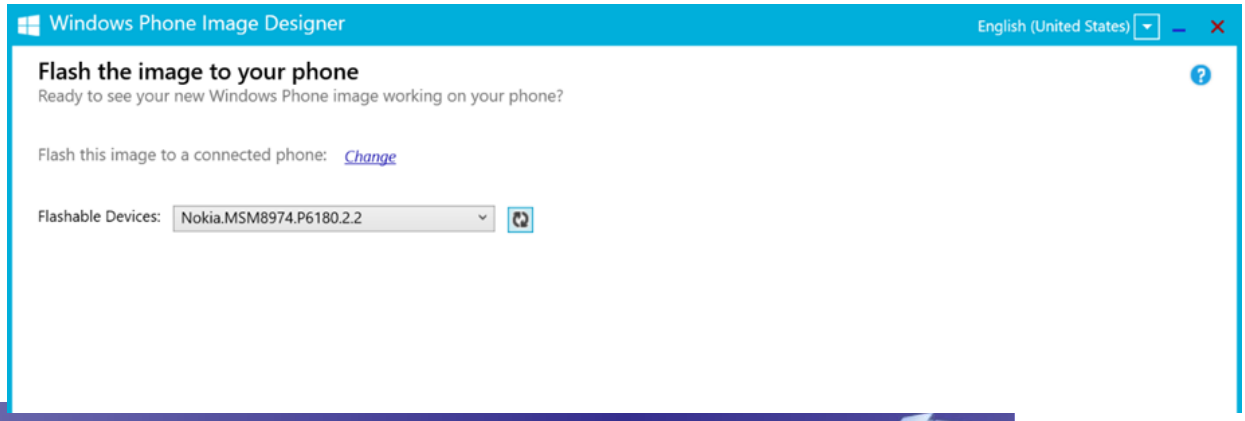
- **Do not flash FFU packages which aren't for your device!**

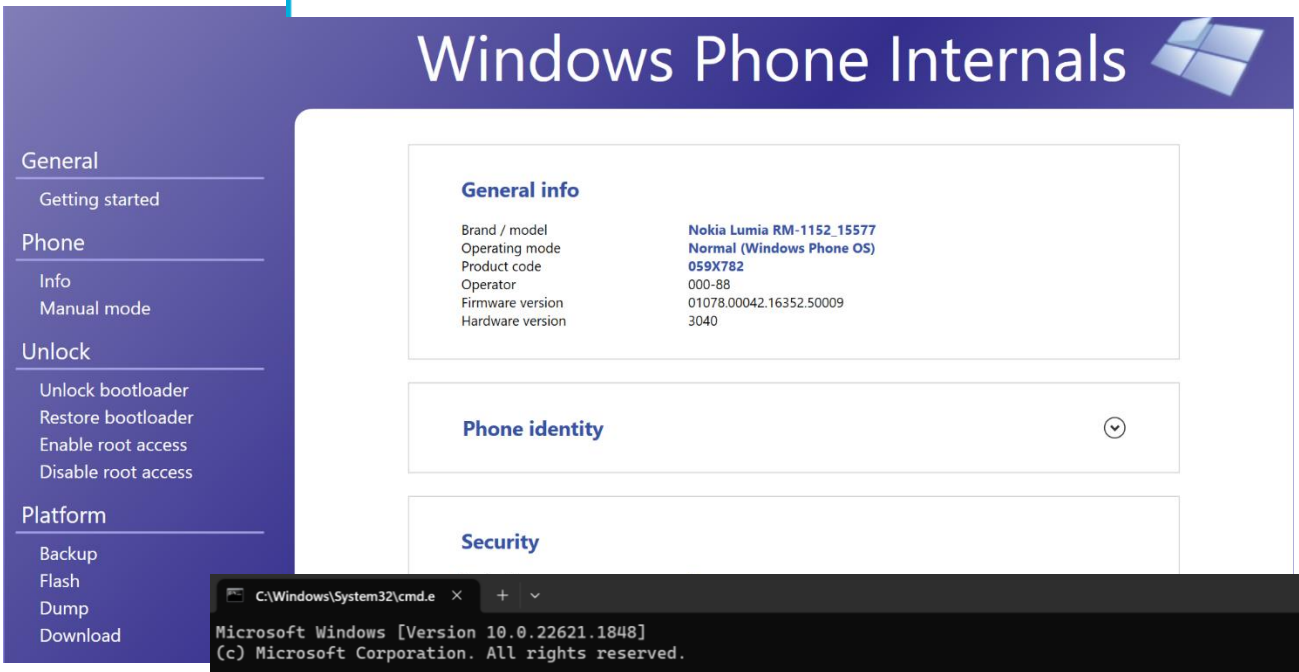
  Flash only the FFU package of the same RM & Product code of your device (*Matching RM code is a must*)

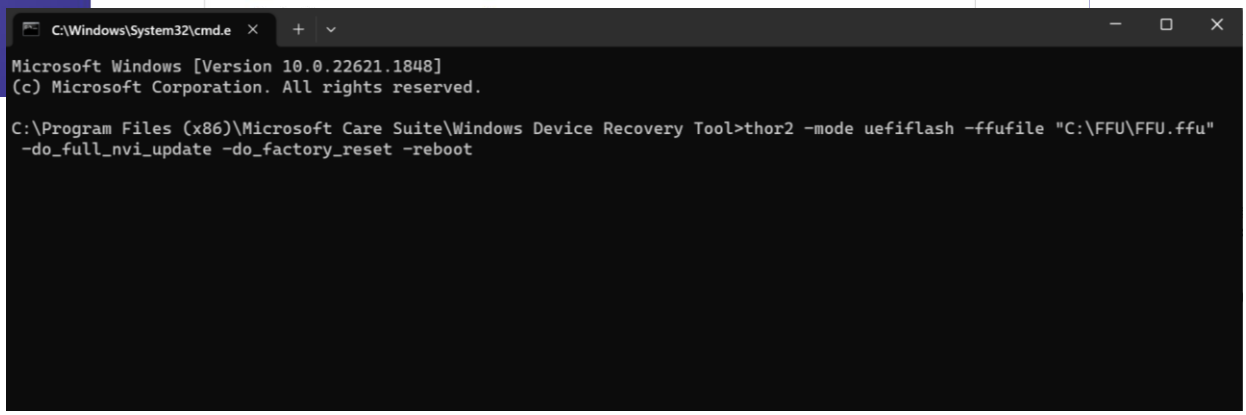
Flash FFU packages to Windows Phones

There are three main methods to flash your Windows Phone using official FFU packages;

1. METHOD 1: Windows Phone Internals (WPI)
2. METHOD 2: THOR2 (CLI WDRT Tool)
3. METHOD 3: Windows Phone Image Designer (WPID)







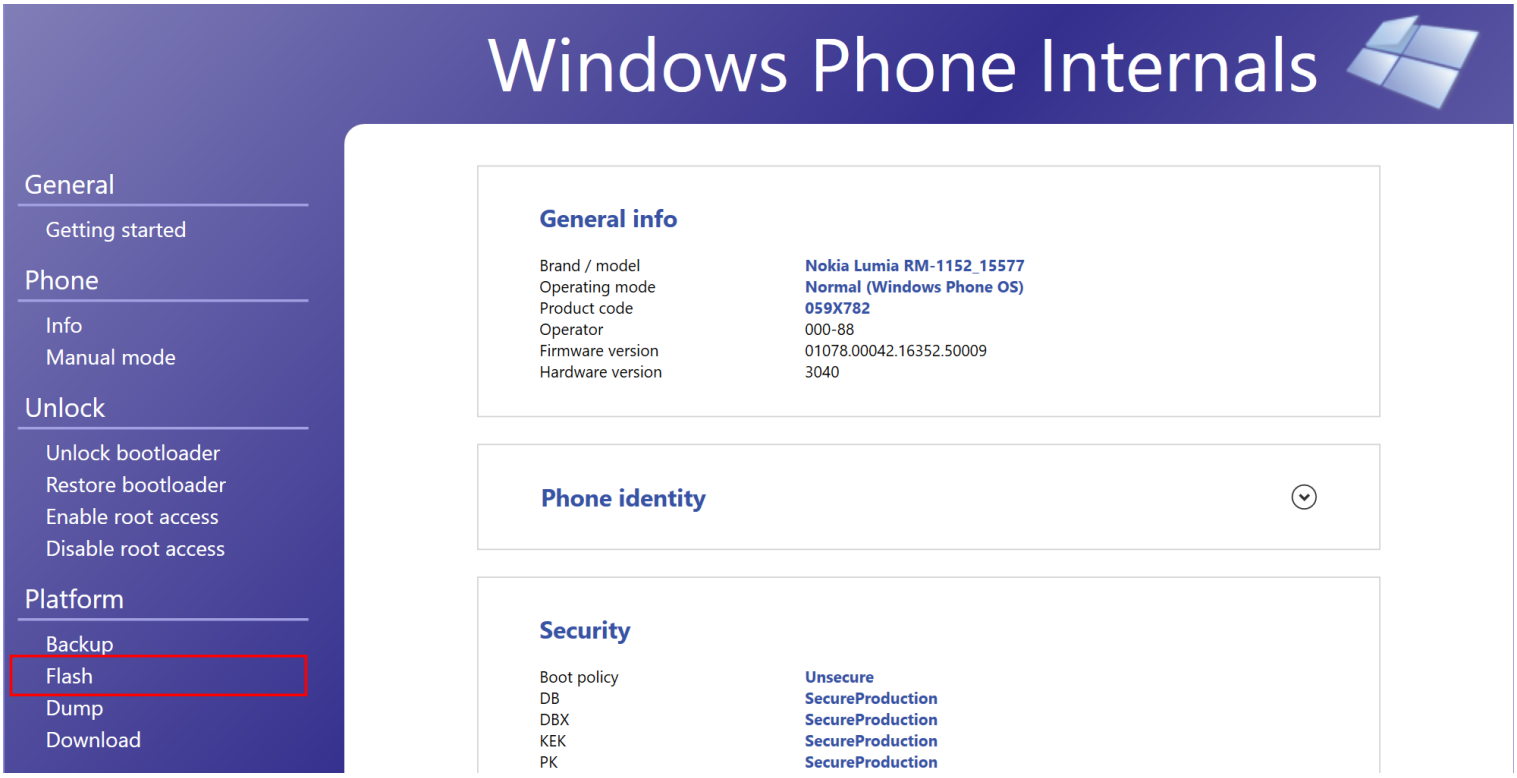
METHOD 1: Windows Phone Internals (WPI)

COMPATIBILITY: ONLY MICROSOFT / NOKIA LUMIA DEVICES.

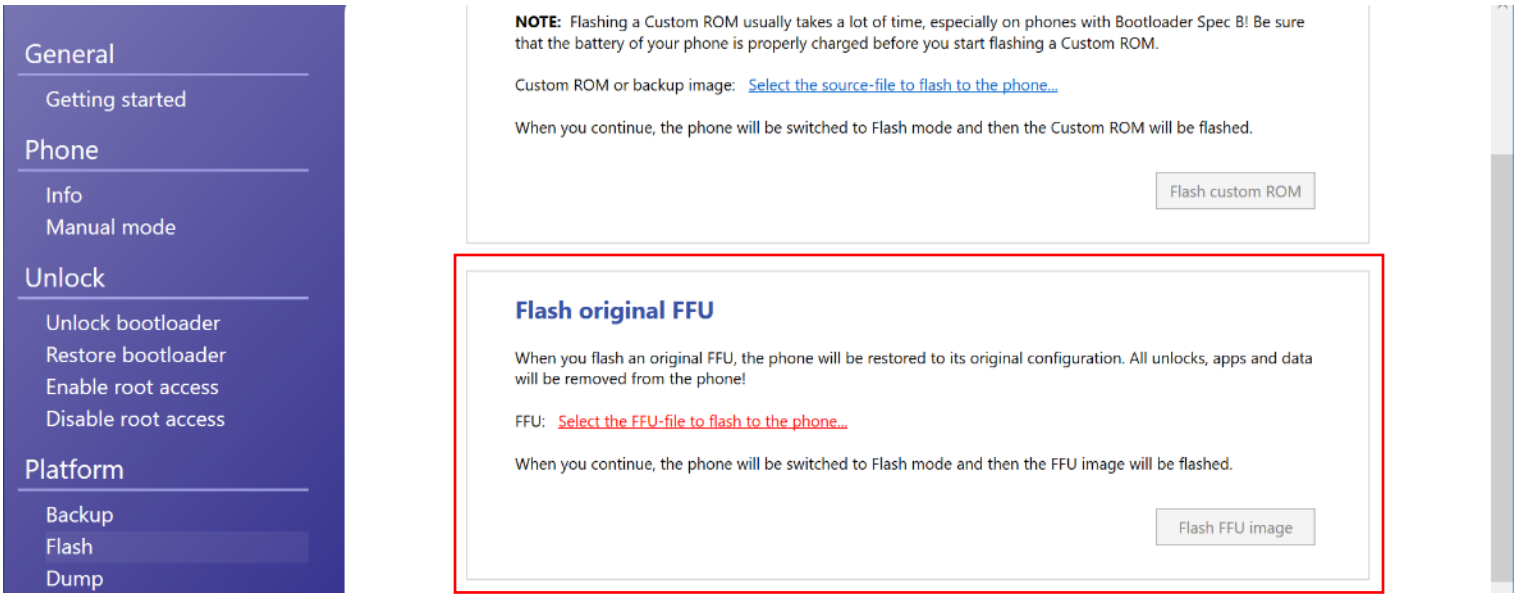
> Connect your LUMIA device to your PC.

> Open Windows Phone Internals application.

It will display the connected device details, click **Flash** entry from the side menus.

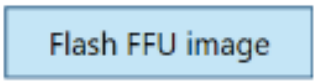


> Scroll to **Flash original FFU** part and then select your FFU package by clicking "***Select the FFU-file to flash to the phone***"

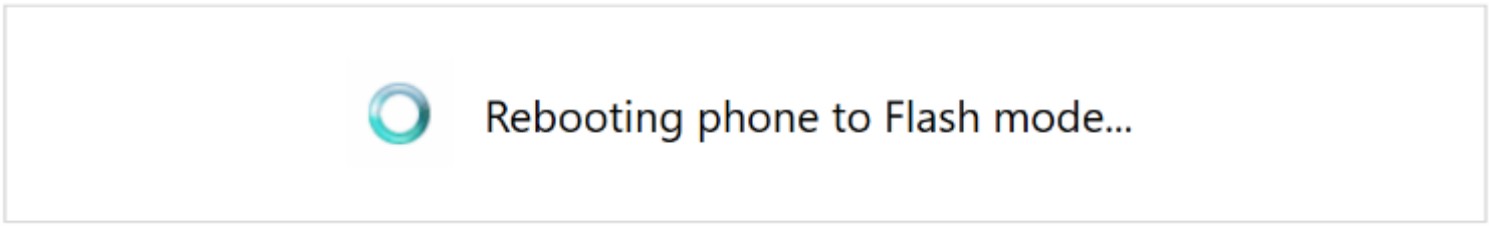


> Take a good note of the PRE-NOTES again.

Once you are through, click **Flash FFU image** button to begin flashing.

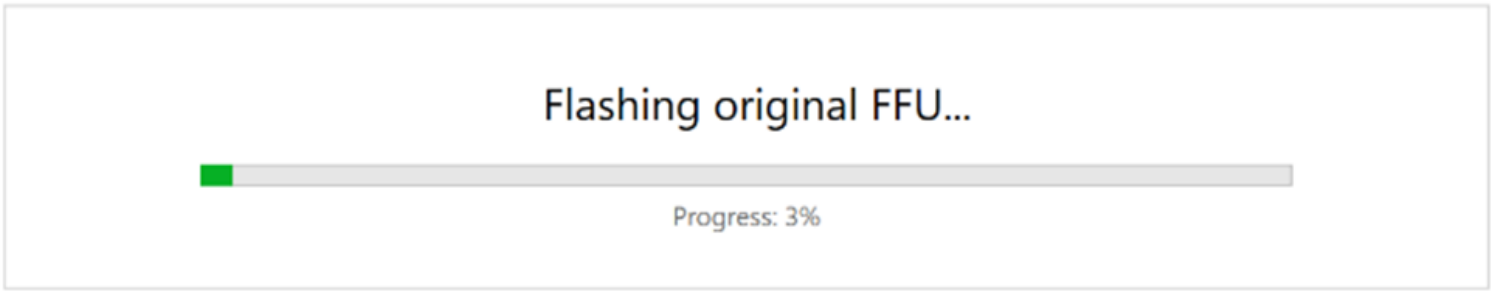


Then, the device will reboot to flash app.

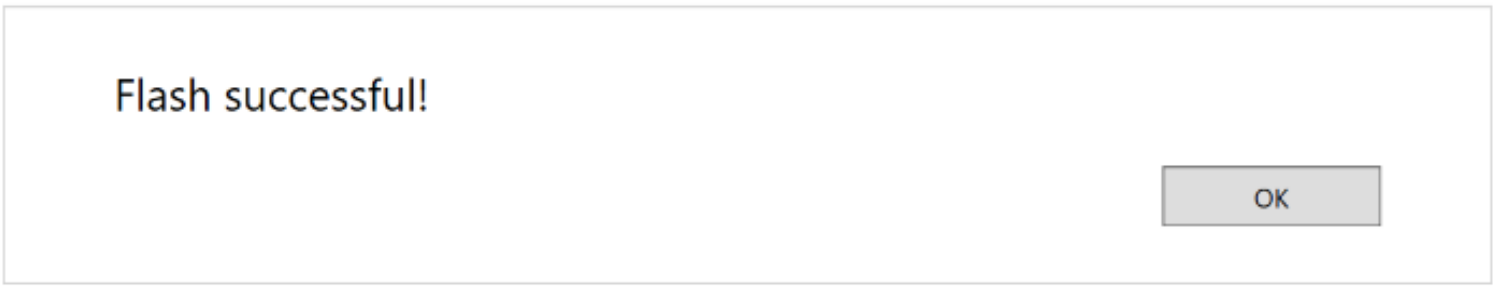


As soon as the device boots to flash app, the device will then continue to flash mode and will start the flashing process.

APPROXIMATE DURATION: 2 – 5 Minutes (*Depends on several factors of both Phone and PC*)



Once the progress reaches **100%**, the device will then reboot out from red Flash Mode and WPI will state that the flash is done!



> Your device will now boot to the newly flashed OS and will be greeted with the OOBE (Out-Of-Box-Experience) soon.

METHOD 2: THOR2 (CLI WDRT TOOL)

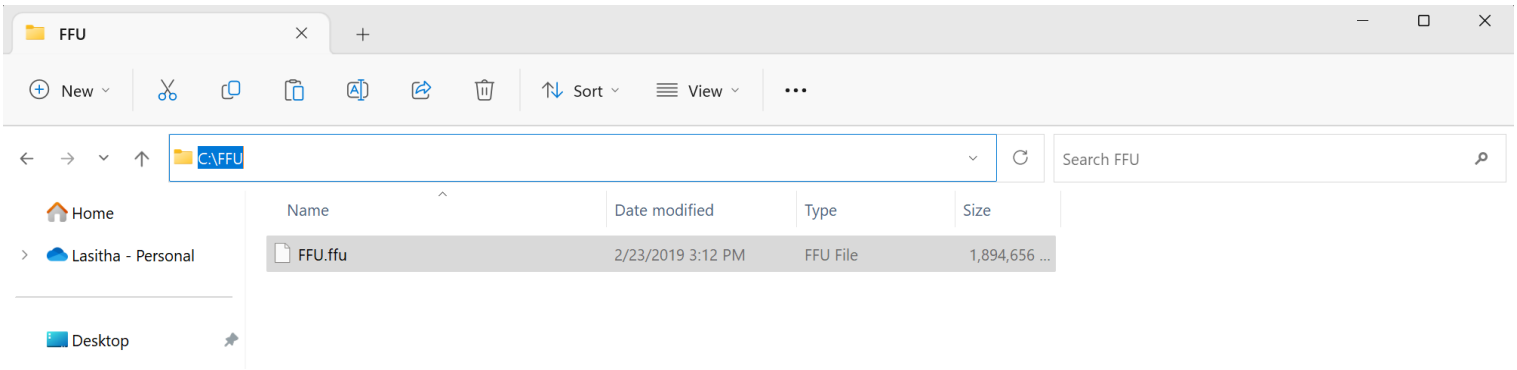
COMPATIBILITY: ONLY MICROSOFT / NOKIA LUMIA DEVICES.

> Connect your LUMIA to your PC.

> First, since this is command line-based tool which deals with paths, we are going to create **a folder named FFU in root partition (C:) of your PC.**

Then move the FFU package of your device to that folder and **rename the file to FFU**.

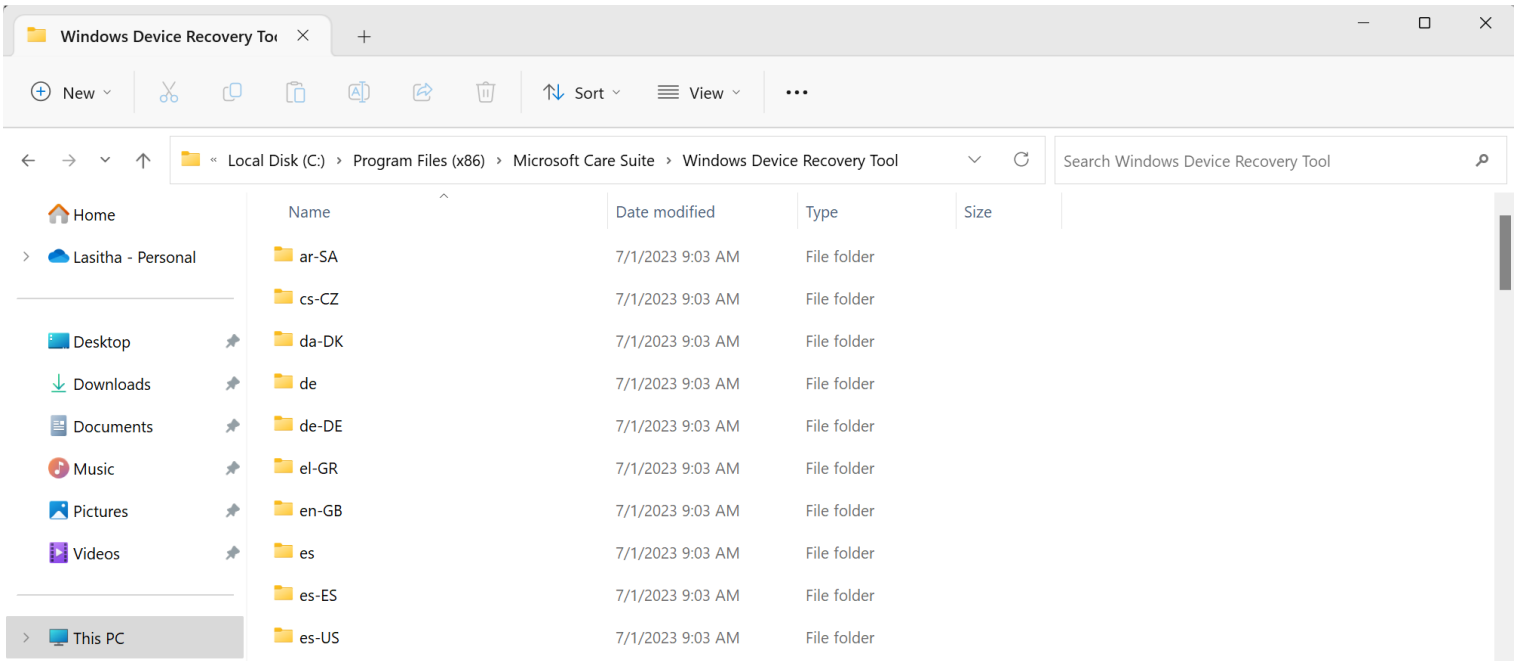
(*See the image for more details*)



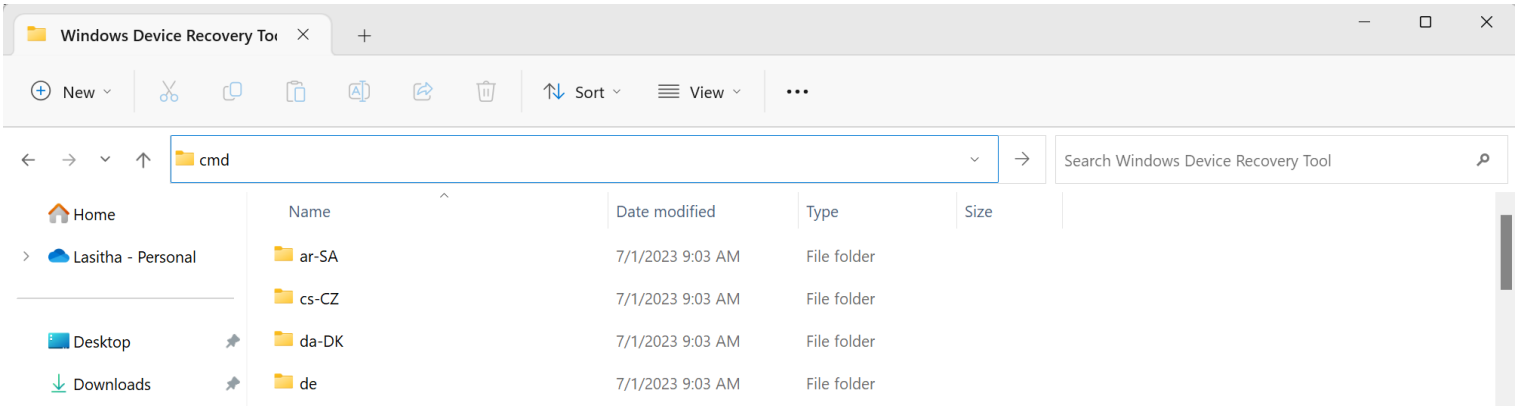
> Now navigate to the below path in your PC.

C:\Program Files (x86)\Microsoft Care Suite\Windows Device Recovery Tool

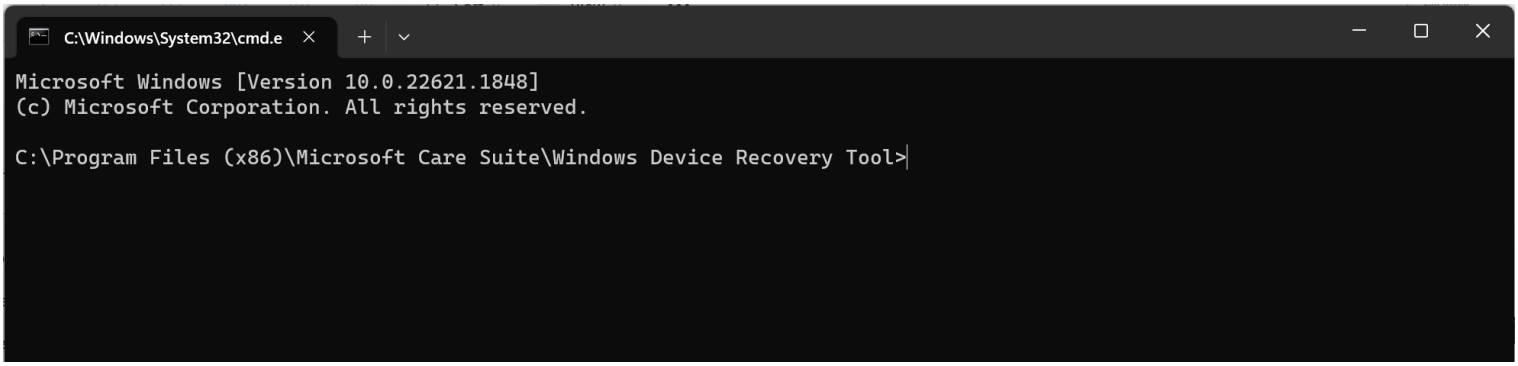
(*If the above path doesn't exist in your PC, then you don't have Windows Device Recovery Tool (WDRT) installed in your PC*)



> Now click on the address bar and type CMD and press enter.



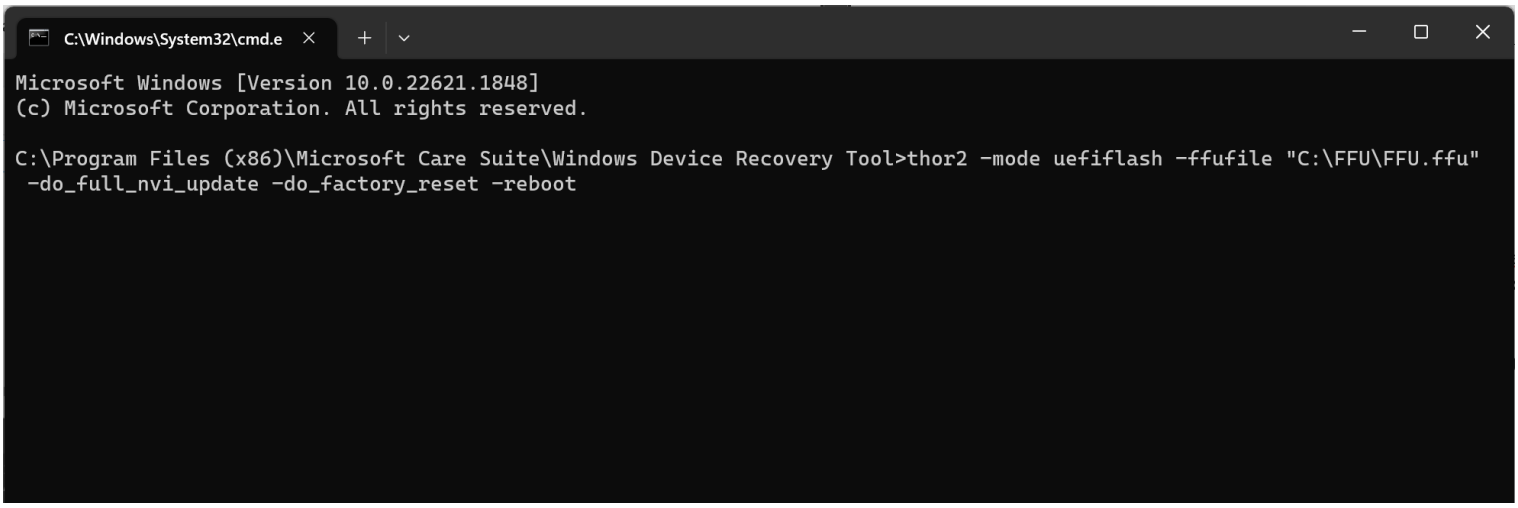
That will open a Command prompt window in that directory.



> Then copy the below command and paste it in your command window.

thor2 -mode uefiflash -ffufile "C:\FFU\FFU.ffu" -do_full_nvi_update -do_factory_reset -reboot

(*Change **C:\FFU\FFU.ffu** path to your FFU file **if you didn't place it in the folder the guide instructed you to***)



TIP: *Via adding the **-do_full_nvi_update -do_factory_reset** arguments, it will resolve any cellular issues along with the flash, if you don't have such issue, you can remove them but there will be no harm in flashing with them.*

> Re-check the command and see if the files are in place, press enter to begin flashing!

There will be several commands as soon as you press enter and your phone will also reboot.

Then the command window will show **a percentage** and your phone will **boot to flash mode (Red screen with two white arrows / NOKIA logo)** and also progress bar will be displayed in the phone as well, which means the flashing has begun!

```
Requested read param 0x41545250 is not supported by this flash app version.
Send backup to RAM req...
Clearing the backup GPT...SKIPPED!
Successfully parsed FFU file. Header size: 0x000e0000, Payload size: 0x0000000073960000, Chunk size: 0x00020000, Header
offset: 0x00000000, Payload offset: 0x00000000000e0000
RKH match between device and FFU file!
Option: Skip CRC32 check in use
Start sending header data...
Start sending payload data V2Sbl in async mode...
Percents: 0
Percents: 1
Percents: 2
Percents: 3
Percents: 4
Percents: 5
Percents: 6
Percents: 7
Percents: 8
Percents: 9
Percents: 10
Percents: 11
Percents: 12
Percents: 13
Percents: 14
Percents: 15
Percents: 16
Percents: 17
Percents: 18
Percents: 19
Percents: 20
```

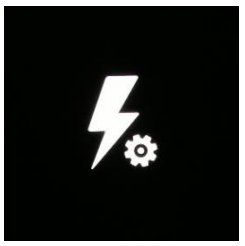
> When the percentage reach **100%**, the phone will automatically boot out from the Flash mode and CMD will state **Exited with success**.

```
Write parameter to device via UEFI Flash App
Write parameter Ok
Flash options set successfully.

[Full NVI update result] 0
Rebooting device
Sending reset command to device
Reset command sent successfully.
Operation took about 1 minute, 7 seconds. Average transfer speed was 28.94 MB/s.

Exited with success

C:\Program Files (x86)\Microsoft Care Suite\Windows Device Recovery Tool>_
```

Your phone will boot to the newly flashed OS and then to the Out-Of-Box-Experience (OOBE)!

METHOD 3: Windows Phone Image Designer (WPID)

COMPATIBILITY: ANY WINDOWS PHONE.



This tool uses the **FFULoader** mode to flash the phone, so first; you will need to get your device booted in to that mode.

> Turn OFF your Windows Phone and then turn it ON again.

> As soon as the device manufacturer logo is shown (NOKIA / Microsoft / HP / etc…), **press and hold the volume up button until the device display shows a white lighting & cog symbol**.

> That means the device is now in FFULoader.

(*Failed to do so and the device starts to boot Windows Phone OS? restart and try again*)

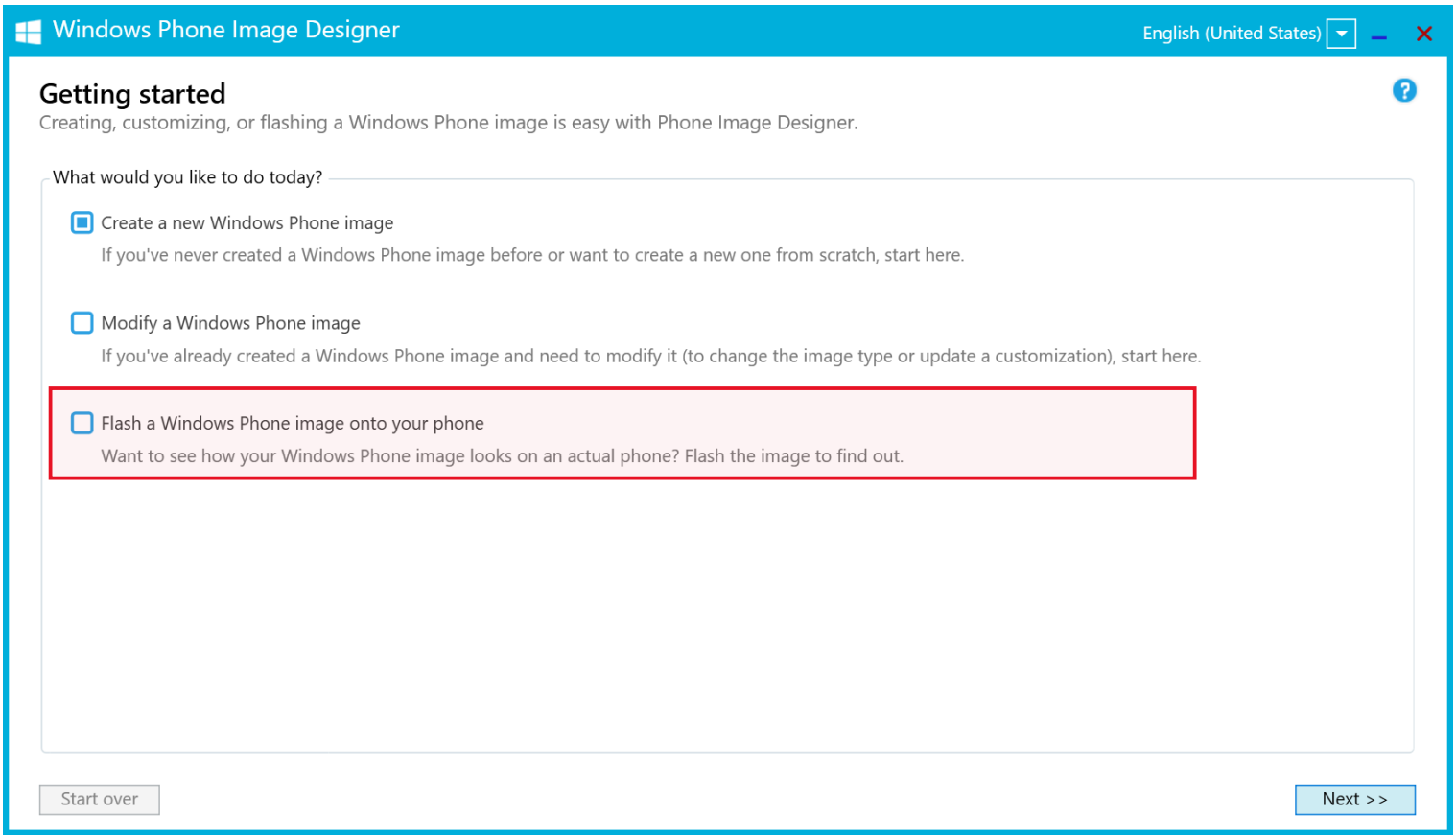
> Now connect your phone to your PC.

> Open Windows Phone image designer.

(*If your OS is 64bit, go to "64 → Image designer", if it's 32bit, go to "32 → Image Designer"*

*In either folder, run the **start.bat** file to start the software*)

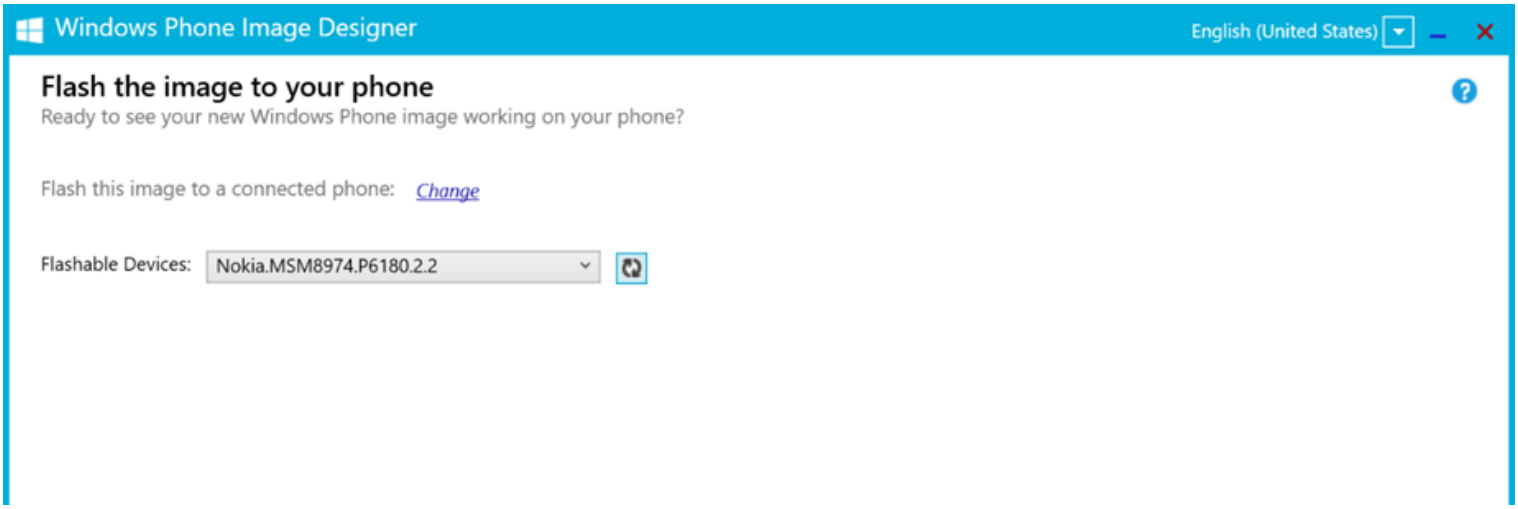
> In the tool, **select the third option 'Flash a Windows Phone image onto your phone'** and click **next** to proceed further.



> Then, you will get to the below screen where you have to choose the FFU package of your device to flash it.

Click **Change** to browse and select the FFU package of your device.

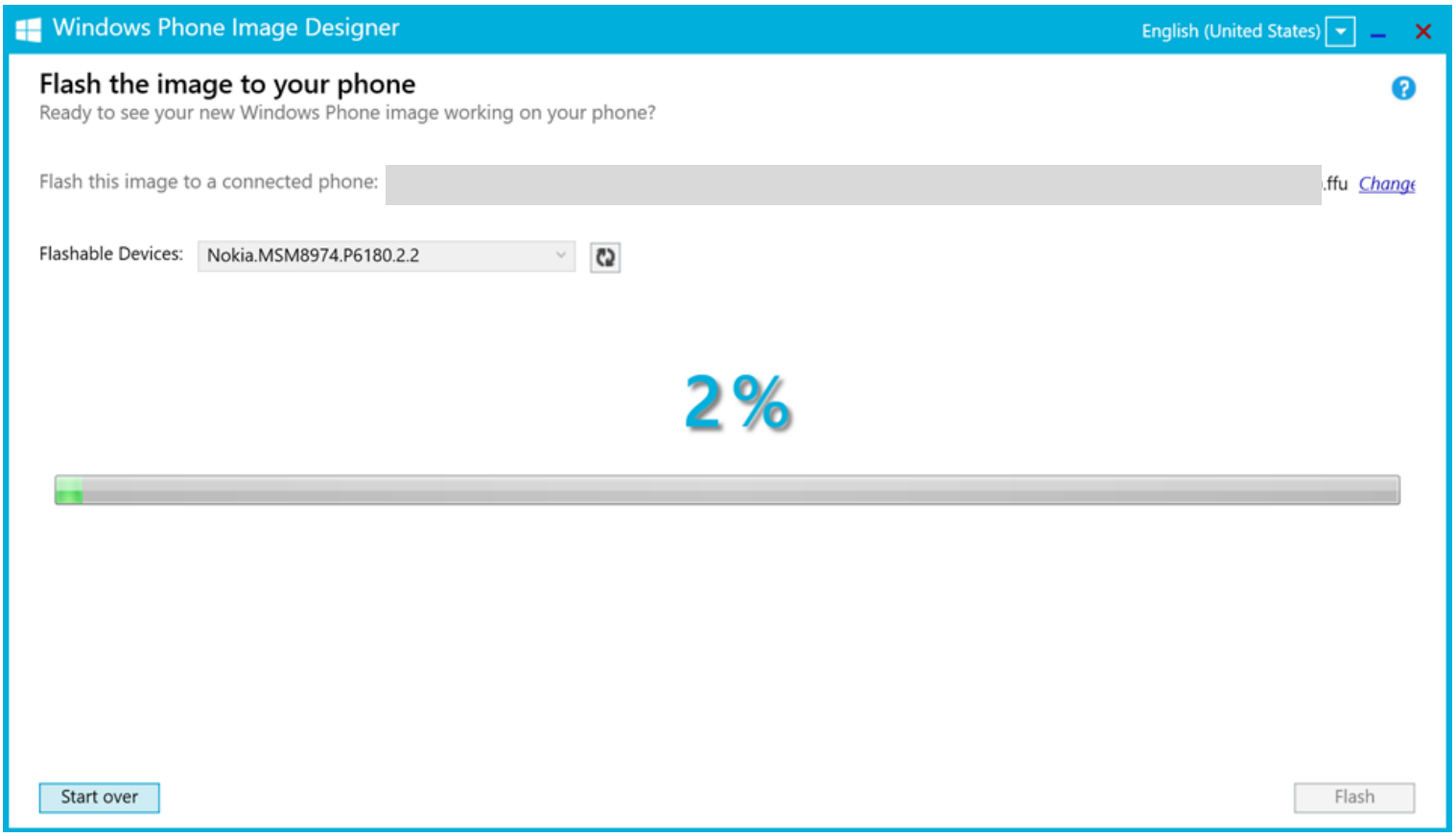
(*The device doesn't display in Flashable devices? Then your device is not in FFULoader mode, get your device booted*)



> Then click Flash to start flashing the selected FFU package to your device.

> Now the flashing will begin and will show a progress bar along with the percentage.

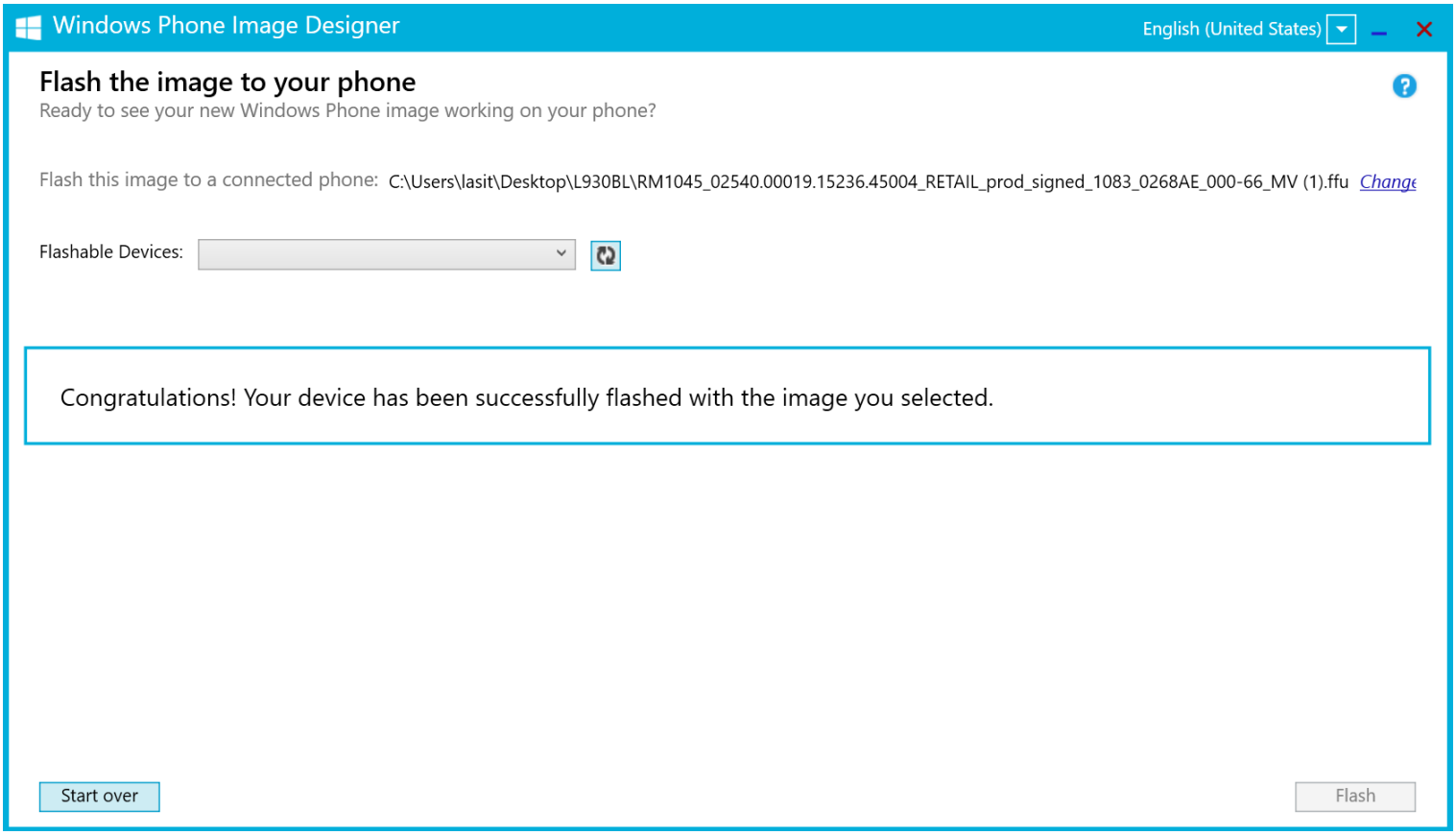
(*The phone will not display any progress; it will be static showing the FFULoader symbol*)



> Once the flashing is finished, the WPID will state if it's a successful flash or not.

If it's successful, the device will automatically boot out from FFUloader and then will boot to Windows Phone OS.

(*Which is why there is no device in flashable devices cause the device rebooted out from FFULoader once flashing finished*)



> Then you can enjoy the newly flashed device in its default state!

POST-NOTE (MANDATORY)

- **DO NOT FLASH FFU PACKAGES NOT MEANT FOR YOUR DEVICE!**

  Always flash only the FFU package **matching both RM & PRODUCT CODE of your device** to be on the safe side.

TIP: You can usually flash FFU packages of different 'Product code' but in the same 'RM code' to your device though do it at your own risk!

Credits

- ✓ Microsoft for WDRT (& Thor2), WPID.
- ✓ Heathcliff74 & Gustave Monce for Windows Phone Internals.

That's all for this guide!

THANK YOU!!

Lasitha Samarasinghe